Remarks

Claims 1, 6-7, 9-11, 18, 21, 23-26 and 32 have been amended. Claims 3, 8, 12 and 19 have been canceled. Applicant respectfully requests reconsideration and allowance of the pending claims in the light of the points that follow.

Claim rejections under 35 U.S.C. 101

The Office Action rejected claims 24-30 because the claims are non-statutory as not being tangibly embodied in a manner so as to be executable. Applicant has amended the subject matter of each of claims 24-30 into "tangible computer-readable medium", which would cover tangible embodiments as disclosed in the specification as well as other tangible embodiments that are apparent to a skilled person. Applicant respectfully submits that "computer-readable medium" is regarded as a statutory subject matter under a PTO guideline for 101. Reconsideration and withdrawal of the present rejection are respectfully requested.

Claims Rejections Under 35 U.S.C. 103(Bantz/Takamura)

The Office Action rejects claims 1-3, 6-8, 11-12, 18-19 and 32 under 35. U.S.C. 103 as being unpatentable over Bantz (US 2006/0107269) in view of Takamura (US 2004/0167996). Applicant respectfully requests the rejection of claims 1-3, 6-8, 11-12, 18-19 and 32 be withdrawn for the following reasons.

As discussed in M.P.E.P 2143.03, to establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim

must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Claim 1 reciting the request comprises a device module identifier to identify a device module from **a plurality of device modules in the server platform** to handle the input/output operation, wherein **the device module is a virtual device** corresponding to the input/output device, is neither taught nor suggested by the combination of Bantz and Takamura.

Lines 5-6 of Paragraph 0027 of Bantz teach that when an I/O device is plugged into the virtual device hub, the virtual device hub senses the I/O device and send the device module number and type to the server. Lines 5-7 of paragraph 0028 of Bantz teach that the physical device driver and virtual device driver corresponding to the I/O device are provided on the server. It can be seen that the virtual device hub establishes the device module corresponding to the I/O device on itself, but not the server. However, the server is installed with the virtual device driver which is different from a virtual device corresponding to the I/O device, namely, the device module.

Paragraph 0032 of Bantz teaches to integrate the device virtualization layer in the operation system of a remote system between the device and the server. As alleged by the Final Office Action mailed on October 28, 2009, the remote system is the user. In view of this, Bantz still teaches that the device module established by the device virtualization layer should be installed in the user, rather than the server.

Takamura does not teach anything about device module, except for Line 7 of paragraph 0029 teaching that when an application running on a client computer carries out a read or write command, the memory protection interrupt processing 300 of the client computer detects the read or write command to the logical I/O device. Here, the logical I/O device may be interpreted as a virtual device corresponding to the I/O device, namely, the device module. In this case, Takamura teaches that the client computer is installed with the device module, rather than the server.

Since neither Bantz nor Takamura teaches the request comprises a device module identifier to identify a device module from **a plurality of device modules in the server platform** to handle the input/output operation, wherein **the device module is a virtual device** corresponding to the input/output device, claim 1 is patentable over Bantz in view of Takamura.

For similar reasons, claims 1, 6, 11, 18, 26 and 32 are patentable over Bantz in view of Takamura, so as the claims depending to them.

Response to Examiner's opinion

Opinion A

The Office Action holds that lines 2-4 of paragraph 0006 of Bantz teaches determining that an input/output operation related to an input/output device happens during execution of an application on a virtual machine of the client platform. Further, the Office Action holds that the above determining is different from executing an application on the client platform, but was only intended to teach that a virtual machine was performing the execution.

Applicant respectfully submits that the Office Action concedes that Bantz does not teach that the virtual machine runs on the client platform. Further, Bantz teaches that the client machine does not perform an application which actually being run on the remote virtual machine of the server (lines 3-5 of paragraph 0009). Since Bantz clearly states that the virtual machine does not run on the client platform and the client platform does not perform an application, Bantz does not teach determining that an input/output operation related to an input/output device happens **during execution of an application on a virtual machine of the client platform**. Moreover, even though as the Office Action states that the above "determining" means that a virtual machine was performing the execution, the above "determining" clearly states that the execution is performed on the virtual machine **of the client platform**, which nothing from Bantz teaches.

Opinion B

Applicant respectfully restates that: As discussed in M.P.E.P. §2143.01, where the teachings of two or more prior art references conflict, the examiner must weight the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit the another. In re Young, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991).

Applicant would like to restate that the teachings of the two reference conflict because invention taught by Bantz is made under the condition that the client platform does not run a virtual machine which is instead running on the server, the client platform does not run any applications, which are instead running on the server,

but the devices are physically local to the user rather than to the server. Therefore, in order to use the devices which are physically remote to the virtual machine of the server, a virtual device hub used for vitalizing the devices are introduced. In other words, without the above condition, there will be no motivation to make the invention of Bantz at all.

However, the invention of Takamura is made under the condition that the client platform performs applications on its own operating system, while the I/O devices that the application may use are physically remote to the client but physically local to the server. In order for the applications running on the client platform to use the I/O device local to the server without boundary of operating systems running to the client and the server, the hypervisor carrying out the device virtualization is therefore introduced. In other words, without the above condition, there will be no motivation to make the invention of Takamura at all.

Besides to the above, there are other conflicting teachings between Bantz and Takamura, such as client of Bantz must not have a hypervisor because client of Bantz does not run virtual machines, but the client of Takamura must have a hypervisor to communicate with the hypervisor of a server under a protocol for the device virtualization (see paragraph 0024).

It can be seen from the above that the inventions of Bantz and Takamura are made under completely different conditions for different purposes. According to MPEP, Applicant respectfully submits that the basic requirement of a *Prima Facie*

case of obviousness does not meet because there is no motivation to combine Bantz and Takamura.

In addition, Applicants fails to see anything from Bantz teaches that the client system can be fat and unsupported drivers can be stored on the fat client from the server. Further, Applicant does not think this has any relevancy to the argument above, because application runs above the operating system and storing driver into an operating system does not mean that the client platform performs an application. On the contrary, Bantz clearly states that "When the user runs an application, the application is actually being run in the remote virtual machine" (lines 3-5 of paragraph 0009). This obviously conflicts with the teaching of Takamura.

Furthermore, the Office Action admits that Bantz teaches the I/O devices are **physically** local to the user, and the invention of Bantz makes it virtually local to the server. This conflicts with the teaching of Takamura that the I/O devices are **physically** local to the server.

Opinion C

The Office Action holds that Bantz and Takamura are analogue because they are in the same field of endeavor. Applicant respectfully objects. Based on the above, Bantz and Takamura aim to solve problems under conflicting conditions with conflicting techniques. Non analogousness can be built between them.

Opinion D

As stated above, Applicant fails to see anything from Bantz teaches that the client system can be fat and unsupported drivers can be stored on the fat client from

the server. Further, Applicant does not think this has any relevancy to the argument above, because application runs above the operating system and storing driver into an operating system does not mean that the client platform performs an application. On the contrary, Bantz clearly states that "When the user runs an application, the application is actually being run in the remote virtual machine" (lines 3-5 of paragraph 0009). This obviously conflicts with the teaching of Takamura.

Conclusion

The foregoing is submitted as a full and complete response to the Official Action. Applicant submits that the application is in condition for allowance. Reconsideration is requested, and allowance of the pending claims is earnestly solicited.

Should it be determined that an additional fee is due under 37 CFR §§1.16 or 1.17, or any excess fee has been received, please charge that fee or credit the amount of overcharge to deposit account #02-2666. If the Examiner believes that there are any informalities, which can be corrected by an Examiner's amendment, a telephone call to the undersigned at (503) 439-8778 is respectfully solicited.

Respectfully submitted,

Date: November 12, 2010

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